SC/QC/YRI/2019-20/W8-DN-C1

Date: 24-12-2019

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}

Ref.: Material testing/PMC/19-20,

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	162min	Shall not be less than 30 min
2	Final setting time	280min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.13%	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	2.06mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.76N/Sq mm	Shall not be less than 27 N/Sqmm

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SC/QC/YRI/2019-20/W8-DN-PCC1 Date: 24-12-2019

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	64.35	0 -20	30- 70
10mm	32.15	0 -5	10- 35
4.75mm	4.05	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	96.70	90-100	90-100	90-100	The Sample Conforms to Grading Zone-II
02.36	82.15	60-95	75-100	85-100	
01.18	74.05	30-70	55-90	75-100	
600.mic	46.60	15-34	35-59	60-79	
300.mic	23.35	5-20	8-30	12-40	
150.mic	6.80	0-10	0-10	0-10	

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SC/QC/YRI/2019-20/W8-DN-C2 Date: 01-01-2020

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53.
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	160 min	Shall not be less than 30 min
2	Final setting time	275min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.18%	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	2.03mm	Shall not be more than 10 mm
5	Compressive strength b) 3 days (average of three results)	28.54 N/Sq mm	Shall not be less than 27 N/Sqmm

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SC/QC/YRI/2019-20/W8-DN-PCC2

Date: 01-01-2020

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)

Ref.: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer.
RI.Yelahanka Division.
BBMP. Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

2. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size. mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	63.70	0 -20	30- 70
10mm	29.35	0 -5	10- 35
4.75mm	4.25	----	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size. mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	98.35	90-100	90-100	90-100	The Sample Conforms to Grading Zone-II
02.36	81.15	60-95	75-100	85-100	
01.18	73.45	30-70	55-90	75-100	
600.mic	45.80	15-34	35-59	60-79	
300.mic	24.15	5-20	8-30	12-40	
150.mic	6.50	0-10	0-10	0-10	

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SC/QC/YRI/2019-20/W8-DN-C3 Date: 26-12-2019

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}

Ref.: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	154min	Shall not be less than 30 min
2	Final setting time	275min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.09 %	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	2.15 mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.46 N/Sq mm	Shall not be less than 27 N/Sqmm

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SC/QC/YRI/2019-20/W8-DN-FA1 Date: 26-12-2019

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**98.15**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**82.45**	60-95	75-100	85-100	
01.18	**70.50**	30-70	55-90	75-100	
600. mic	**46.80**	15.34	35-59	60-79	
300.mic	**24.45**	5-20	8-30	12-40	
150.mic	**7.30**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**17.64 %**	-----
2	Silt Content	----	**0.58%**	Not more than 8%
3	Specific Gravity	----	**2.61**	-------

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SC/QC/YRE/2019-20/WS-DN-FA1

Date: 26-12-2019

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.

(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)

Ref: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	98.15	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	82.45	60-95	75-100	85-100	
01.18	70.50	30-70	55-90	75-100	
600. mic	46.80	15.34	35-59	60-79	
300.mic	24.45	5-20	8-30	12-40	
150.mic	7.30	0-10	0-10	0-10	

TABLE 1.2 :

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**17.64 %**	-----
2	Silt Content	----	**0.58%**	Not more than 8%
3	Specific Gravity	----	**2.61**	-------

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SC/QC/VRL/2019-20/W8-DN-CA1

Date: 26-12-2019

1. **TESTING OF COARSE AGGREGATES (20 mm):**

Sub: Testing of Construction Materials.

(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)

Ref.: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer.
RI,Yelahanka Division.
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	97.45	85-100	90 - 100
10 mm	48.30	0 - 20	25 - 55
4.75 mm	3.95	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	26.58%	Not to exceed 25 %
2.	Crushing value	28.72%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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SC/QC/YR1/2019-20/W8-DN-S1

Date: 26-12-2019

1. TEST REPORT ON REINFORCEMENT STEEL:

Sub: Testing of Reinforcement Steel of diameter 10 mm TMT Steel.
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
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Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TABLE – 1

SL No	Details	For 10 mm	
		Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	10.0 mm	10.0 mm
02	Observed Wt/m Length Kg/m	0.621	0.567
03	Proof stress/Yield stress, fy , N/mm^2	546.0	500.0
04	Bend/ Re bend Test	Ok	---
05	Percentage of Elongation, %	20.40	12.00
06	Ultimate Tensile Strength N/mm^2	636.0	545.0

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SCQC/YRI/2019-20/W8-DN-CB1

Date: 04-01-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).

{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}

Ref.: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	28-12-19	04-01-20	07	22500	370	16.44	16.67
	002	"	"	"	"	380	16.89	
	003	"	"	"	"	375	16.67	

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C/QC/YRI/2019-20/W8-DN-CB2

Date: 09-01-2020

TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
Ref: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI.Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	02-01-20	09-01-20	07	22500	380	16.89	16.81
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	385	17.11	

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CQC/VRI/2019-20/WB-DN-CB3

Date: 10-01-2020

TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).

Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.]

Ref: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	03-01-20	10-01-20	07	22500	360	16.00	16.07
	002	"	"	"	"	355	15.78	
	003	"	"	"	"	370	16.44	

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C/QC/VRI/2019-20/W8-DN-CB4

Date: 11-01-2020

TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)
Ref.: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI.Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	04-01-20	11-01-20	07	22500	365	16.22	16.15
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	355	15.78	

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SC/QC/YR1/2019-20/W8-DN-CB1A

Date: 25-01-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)
Ref: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	28-12-19	25-01-20	28	22500	510	22.67	22.37
	002	"	"	"	"	495	22.00	
	003	"	"	"	"	505	22.44	

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SC/QC/YR1/2019-20/W8-DN-CB2A

Date: 30-01-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}

Ref: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division.
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	02-01-20	30-01-20	28	22500	515	22.89	22.59
	002	"	"	"	"	500	22.22	
	003	"	"	"	"	510	22.67	

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SC/QC/YRI/2019-20/W8-DN-CB3A

Date: 31-01-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)
Ref.: Material testing/PMC /19-20.
Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	03-01-20	31-01-20	28	22500	515	22.89	22.52
	002	"	"	"	"	495	22.00	
	003	"	"	"	"	510	22.67	

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Date: 01-02-2020

TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
(Project* :Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)

Ref.: Material testing PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	04-01-20	01-02-20	28	22500	525	23.33	22.96
	002	"	"	"	"	515	22.89	
	003	"	"	"	"	510	22.67	

Page No. 1/1.

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CONSULTING ENGINEERS

SCQCYRI/2019-20/W8-DN-K1

Date: 27-01-2020

TEST REPORT

sub: Testing of Pre-cast Material-Kerb Stones.
(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)
Ref: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.37	23.25	**23.16**	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.34	22.80		
3	003	3.39	23.45		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.48	**4.48**
2	002	4.32	
3	003	4.65	

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SI/QC/VRI/2019-20/W8-DN-K2

Date: 27-01-2020

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)
Ref.: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.34	22.90	**23.15**	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.38	23.40		
3	003	3.36	23.15		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.56	**4.66**
2	002	4.74	
3	003	4.68	

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SE/QC/VRL/2019-20/W8-DN-G1 Date: 10-01-2020

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (Grade-V) mix.
(Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)
Ref. Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL. Bangalore.

TEST RESULTS

1. **Gradation Test:**

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
75.00	**100.00**	100
53.00	**97.30**	80-100
26.50	**71.65**	55-90
9.50	**54.75**	35-65
4.75	**46.05**	25-50
2.36	**18.25**	10-20
0.85	**7.45**	2-10
0.425	**3.25**	0-5

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Date: 10-01-2020

TABLE 1.3

Sl. No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)- 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Water absorption, %	0.41%	Not more than 2.0 %
2.	Liquid Limit, %	18.52	Not more than 25.0 %
3.	Plasticity Index, %	NP	Not more than 6.0 %
4.	Moisture Content, %	6.36	----------
5.	Aggregate Impact Value, %	27.89	Not more than 40.00 %

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C/QC/YRI/2019-20/W8-DN-W1

Date: 14-01-2020

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)
Ref: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI.Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	98.10	95-100
26.50	---	-
22.40	72.65	60-80
11.20	54.15	40-60
4.75	36.75	25-40
2.36	24.50	15-30
0.600	18.90	8-22
0.075	3.60	0-5

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Date: 14-01-2020

TABLE 1.2

Sl. No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	27.49%	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	28.15%	Not more than 35.0 %
3.	Water absorption, %	0.42 %	Not more than 2.0 %
4.	Plasticity Index, %	NP	Not more than 6.0 %

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SC/QC/ARI/2019-20/WB-DN-W2

Date: 18-01-2020

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
(Project*- Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)

Ref: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	96.30	95-100
26.50	---	-
22.40	71.25	60-80
11.20	53.45	40-60
4.75	35.90	25-40
2.36	22.05	15-30
0.600	17.55	8-22
0.075	4.15	0-5

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TABLE 1.2

Sl. No	Test conducted	Test Results	Tests Conforms to: IS 3386 Part I to IV) - 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1	Aggregate Impact Value	27.65%	Not more than 30.00 %
2	Combined Flakiness and Elongation index, %	28.72%	Not more than 35.0 %
3	Water absorption, %	0.41 %	Not more than 2.0 %
4	Plasticity Index, %	NP	Not more than 6.0 %

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QC/YRI/2019-20/W8-DN-W3

Date: 20-01-2020

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

b: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
oject*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
f: Material testing/PMC/19-20,
port Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
me of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Gradation Test:
ABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**95.80**	95-100
26.50	**---**	-
22.40	**72.35**	60-80
11.20	**56.90**	40-60
4.75	**32.10**	25-40
2.36	**26.75**	15-30
0.600	**19.05**	8-22
0.075	**3.80**	0-5

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Date: 20-01-2020

TABLE 1.2

Sl. No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	27.68%	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	28.36 %	Not more than 35.0 %
3.	Water absorption, %	0.42%	Not more than 2.0 %
4.	Plasticity Index, %	NP	Not more than 6.0 %

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SC/QC/YRI/2019-20/W8-DN-BD1

Date: 20-02-2020

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}

Ref. Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**52.80^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**109.20 cm**	40
3.	Flash point	**246^0 C**	Minimum 220^0 C
4.	Softening point	**51.30^0 C**	Min. 47

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SC/QC/RI/2019-20/W8-DN-DBM2

Date: 24-02-2020

LTEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub : To determine the percentage of bitumen and gradation for DBM mix sample.
(Project* : Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)

Ref. Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor* : M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.53 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	96.15	90-100
19.0	83.45	71-95
13.20	71.25	56-80
4.75	49.75	38-54
2.36	35.60	28-42
0.300	17.25	7-21
0.075	6.10	2-8

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SC/QC/VRI/2019-20/W8-DN-DS2

Date: 25-02-2020

TEST REPORT ON BITUMINOUS MIXES
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample

(Project* Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodipehalli)

Ref: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table I: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1256	900
2	Marshall Flow at 60°C, mm.	3.42	2.0 - 4.0

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SK/VRL/2019-20/W8-DN-DBM3 Date: 24-02-2020

TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
Project: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
Ref: Material testing/PMC/19-20.
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.51 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**98.75**	90-100
19.0	**81.10**	71-95
13.20	**74.65**	56-80
4.75	**49.35**	38-54
2.36	**36.15**	28-42
0.300	**16.55**	7-21
0.075	**7.10**	2-8

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Ref: SCE/TRI/2019-20/W8-DN-DS4

Date: 26-02-2020

LATEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.

Project: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}

Ref: Material testing/PMC/19-20,

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1264**	900
2	Marshall Flow at 60°C, mm.	**3.42**	2.0 - 4.0

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...RI/2019-20/W8-DN-DS5

Date: 26-02-2020

TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.

Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.)

Ref: Material testing/PMC/19-20.

Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1238	900
2	Marshall Flow at 60°C, mm.	3.10	2.0 - 4.0

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N RI/2019-20/W8-DN-BB1

Date: 02-03-2020

ST REPORT ON BITUMEN SAMPLE:

esting of Bitumen sample VG-30 Grade.
k:* Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no 08 Kodigehalli.}
Material testing/PMC/19-20,
e Required for: Assistant Executive Engineer,
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BBMP, Bangalore.
e of the Agency/Contractor*: M/s KRIDL, Bangalore.
nical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

ABLE 1.1 ;

	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
	Penetration at 25^0 C	**51.70^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**108.0 cm**	40
3.	Flash point	**239^0 C**	Minimum 220^0 C
4.	Softening point	**50.30^0 C**	Min. 47

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581/2019-20/W8-DN-BS2

Date: 09-03-2020

REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

To determine the stability of bituminous mix for BC mix sample.
Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli.}
Material testing/PMC/19-20,
Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1358**	900
2	Marshall Flow at 60°C, mm.	**3.44**	2.0 - 4.0

Page No. 1/1

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SC/ARI/2019-20/W8-DN-BS3

Date: 11-03-2020

TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample
Project*: Repair and Improvements to roads and drains and footpaths of Devinagar Main Road in ward no. 08 Kodigehalli }
Ref: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor* : M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1372	900
2	Marshall Flow at 60°C, mm.	3.46	2.0 - 4.0

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